Lloyd's Register

Rules and Regulations for the Classification of Special Service Craft, July 2008

Notice No. 1

Effective Date of Latest Amendments:

See page 1

Issue date: August 2008

RULES AND REGULATIONS FOR THE CLASSIFICATION OF SPECIAL SERVICE CRAFT, *July 2008*

Notice No. 1

This Notice contains amendments within the following Sections of the *Rules and Regulations for the Classification of Special Service Craft, July 2008.* The amendments are effective on the dates shown:

Part	***Chapter***	***Section***	***Effective date***
5	2	5	Corrigenda
5	3	2	Corrigenda
5	4	2	Corrigendum
7	2	3, 4	1 August 2008
9	2	2, 5, 8	1 August 2008
10	1	5	1 August 2008
10	2	5	1 August 2008
12	2	7	Corrigendum
15	1	5	1 August 2008
15	4	8	1 August 2008
16	2	9	Corrigenda
17	3	3	Corrigenda

It will be noted that the amendments also include corrigenda, which are effective from the date of this Notice.

The *Rules and Regulations for the Classification of Special Service Craft, July 2008* are to be read in conjunction with this Notice No. 1. The status of the Rules is now:

Rules for Special Service Craft	Effective date:	July 2008
Notice No. 1	Effective dates:	1 August 2008 & Corrigenda

Part 5, Chapter 2
Local Design Loads

CORRIGENDA

■ *Section 5*
Impact loads

5.1 Impact pressure for displacement mode

5.1.1 The ~~bottom~~ impact pressure, P_{dh}, for mono-hull and multi-hull craft is to be taken as specified in 5.1.2 and 5.1.3 as applicable.

(*Part only shown*)
5.1.2 The bottom shell impact pressure due to bottom slamming, ~~P_{dh}~~, is given by the following expression:

5.2 Impact pressure for non-displacement mode

(*Part only shown*)
5.2.3 The side shell impact pressure ~~for planing craft~~ due to slamming is to be taken as:

5.3 Impact pressure for craft with foils and lifting devices

(*Part only shown*)
5.3.2 The bottom impact pressure, ~~P_{fb}~~, is given by the greater of P_{fba} or P_{fbb}, where:

Part 5, Chapter 3
Local Design Criteria for Craft Operating in Non-Displacement Mode

CORRIGENDA

■ *Section 2*
Nomenclature and design factors

2.1 Nomenclature

(*Part only shown*)
2.1.1 The nomenclature used in this Chapter is given below:

P_p = pitching pressure, *see* Ch 2,4.4
P_{dl} = ~~bottom~~ impact pressure, *see* Ch 2,5.2
P_{fb} = ~~bottom~~ impact pressure for craft supported by hydrodynamic lift provided by foils or other lifting devices, *see* Ch 2,5.3

Part 5, Chapter 4
Local Design Criteria for Craft Operating in Displacement Mode

CORRIGENDUM

■ *Section 2*
Nomenclature and design factors

2.1 Nomenclature

(*Part only shown*)
2.1.1 The nomenclature used in this Chapter is given below:

P_p = pitching pressure, *see* Ch 2,4.4
P_{dh} = ~~bottom~~ impact pressure, *see* Ch 2,5.1

Part 7, Chapter 2
Construction Procedures

Effective date 1 August 2008

■ *Section 3*
Procedures for welded construction

3.1 General

3.1.1 Except as otherwise indicated below, all welded construction is to be conducted in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

~~*3.1.1*~~ *3.1.2* The requirements of this Section are applicable to aluminium alloys welded using the metal inert gas (MIG) or tungsten inert gas (TIG) processes. Where it is proposed to use alternative welding processes, details are to be submitted for approval, prior to the start of fabrication.

Existing sub-Section 3.3 *has been deleted*.
~~**3.3 Welding equipment**~~

Existing sub-Section 3.4 *has been renumbered* 3.3.
~~**3.4**~~ **3.3 Welding consumables**

Existing sub-Section 3.5 *has been deleted*.
~~**3.5 Welder qualifications**~~

Existing sub-Section 3.6 *has been deleted*.
~~**3.6 Welding procedures**~~

Existing sub-Section 3.7 *has been renumbered* 3.4.
~~**3.7**~~ **3.4 Defined practices and welding sequence**

~~*3.7.1*~~ *3.4.1* Details of the welding procedures ~~(see 3.6)~~ and the sequence of welding assemblies and joining up of assemblies are to be submitted.

Existing sub-Section 3.8 *has been deleted*.
~~**3.8 Shipyard practices**~~

Existing sub-Section 3.9 *has been deleted*.
~~**3.9 Welding environment**~~

Existing sub-Section 3.10 *has been renumbered* 3.5.
~~**3.10**~~ **3.5 Structural arrangements and access**

Existing sub-Section 3.11 *has been deleted*.
~~**3.11 Preparation**~~

Existing sub-Section 3.12 *has been deleted*.
~~**3.12 Cleanliness**~~

~~**3.13**~~ **3.6 Heat treatment**

~~*3.13.1*~~ *3.6.1* ~~Under conditions of high humidity, the parts to be welded are to be preheated.~~ Pre-heating is to be applied in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

~~*3.13.2* Where the parts to be welded are large such that heat conduction prevents the joint from reaching the required temperature, or where the parts to be welded are below 5°C, preheating is to be used.~~

~~*3.13.3*~~ *3.6.2* For aluminium-magnesium alloys, the preheating temperature is to be limited to 60°C to avoid the risk of stress corrosion cracking.

~~*3.13.4*~~ *3.6.3* With the 6000 series heat-treatable alloys, it is sometimes beneficial to apply a post-weld heat treatment in the form of artificial ageing. The procedure to be used depends on the alloy and, in order to quantify the benefits, tests are required using representative specimens which accurately simulate the true situation in terms of metal thickness, geometry, filler metal and welding parameters, as well as the post-weld treatment employed.

Existing sub-Section 3.14 *has been deleted*.
~~**3.14 Tack welding**~~

Existing sub-Section 3.15 *has been deleted*.
~~**3.15 Alignment and fit**~~

Existing sub-Section 3.16 *has been deleted*.
~~**3.16 Inspection**~~

~~**3.17**~~ **3.7 Testing**

~~*3.17.1*~~ *3.7.1* ~~Welds are to be clean and free from paint at the time of inspection.~~ Inspection of welded construction is to be conducted in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

~~*3.17.2* In addition to visual inspection, welded joints are to be examined using any one or a combination of ultrasonic, radiographic, magnetic particle, eddy current, dye penetrant or other acceptable methods appropriate to the configuration of the weld.~~

~~*3.17.3* The method to be used for the volumetric~~ examinations of welds is the responsibility of the Builder. Radiography is generally to be used on butt welds of 15 mm thickness or less. Ultrasonic testing is acceptable for welds of 15 mm thickness or greater and is to be used for the examination of full penetration tee butt or cruciform welds or joints of similar configuration.

3.17.4 Non-destructive examinations are to be made in accordance with approved written procedures prepared by the Builder, which identify the method and technique to be used, the extent of the examination and the acceptance criteria to be applied.

3.17.5 Non-destructive examinations are to be undertaken by personnel qualified to the appropriate level of a certification scheme recognized by LR.

3.17.6 Checkpoints examined at the pre-fabrication stage are to include ultrasonic testing on examples of the stop/start points of automatic welding and magnetic particle inspections of weld ends.

3.17.7 Checkpoints examined at the construction stage are generally to be selected from those welds intended to be examined as part of the agreed quality control programme to be applied by the Builder. The locations and numbers of checkpoints are to be agreed between the Builder and the Surveyor.

3.17.8 Particular attention is to be paid to highly stressed items. Magnetic particle inspection is to be used at ends of fillet welds, T-joints, joints or crossings in main structural members and at sternframe connections.

~~*3.17.9*~~ *3.7.2* Checkpoints for volumetric examination are to be selected so that a representative sample of welding is examined.

~~*3.17.10*~~ *3.7.3* Typical locations for volumetric examination and number of checkpoints to be taken are shown in Table 2.3.1. A list of the proposed items to be examined is to be submitted for approval.

~~*3.17.11* For the hull structure of refrigerated spaces and of~~ craft designed to operate in low air temperatures, the extent of non-destructive examination will be specially considered.

3.17.12 For all craft types, the Builder is to carry out random non-destructive examination at the request of the Surveyor.

3.17.13 The full extent of any weld defect is to be ascertained by applying additional non-destructive examinations where required. Unacceptable defects are to be completely removed and where necessary, re-welded. The repair is to be examined after re-welding, *see* 3.19.

3.17.14 Results of non-destructive examinations made during construction are to be recorded and evaluated by the Builder on a continual basis in order that the quality of welding can be monitored. These records are to be made available to the Surveyors.

3.17.15 The extent of applied non-destructive examinations is to be increased when warranted by the analysis of previous results.

Existing sub-Section 3.18 *has been renumbered* 3.8.

~~3.18~~ 3.8 Acceptance criteria

Existing sub-Section 3.19 *has been deleted*.

~~3.19 Weld repair~~

Existing sub-Section 3.20 *has been deleted*.

~~3.20 Structural detail~~

■ *Section 4*
Joints and connections

4.4 Butt welds

~~*4.4.2* Abrupt change of section is to be avoided where~~ plates of different thicknesses are to be butt welded. Where the difference in thickness exceeds 3 mm, the thicker plate to be welded is to be prepared with a taper not exceeding one in three or with a bevelled edge to form a welded joint proportioned correspondingly. Where the difference in thickness is less than 3 mm the transition may be achieved within the width of the weld. Difference in thickness greater than 3 mm may be accepted provided it can be proven by the Builder, through procedure tests, that the Rule transition shape can be achieved and that the weld profile is such that structural continuity is maintained to the Surveyor's satisfaction.

4.4.3 Where stiffening members are attached by continuous fillet welds and cross completely finished butt or seam welds, these welds are to be made flush in way of the faying surface. Similarly, for butt welds in webs of stiffening members, the butt weld is to be completed and generally made flush with the stiffening member before the fillet weld is made. The ends of the flush portion are to run out smoothly without notches or sudden change of section. Where these conditions cannot be complied with, a scallop is to be arranged in the web of the stiffening member. Scallops are to be of such size, and in such a position, that a satisfactory weld can be made.

Existing paragraphs 4.4.4 *and* 4.4.5 *are renumbered* 4.4.2 *and* 4.4.3.

4.5 Fillet welds

~~*4.5.1* T-connections are generally to be made by fillet welds on both sides of the abutting plate, the dimensions and spacing of which are shown in Fig. 2.4.1. Where the connection is highly stressed full penetration welding may be required. Where full penetration welding is required, the abutting plate may need to be bevelled.~~

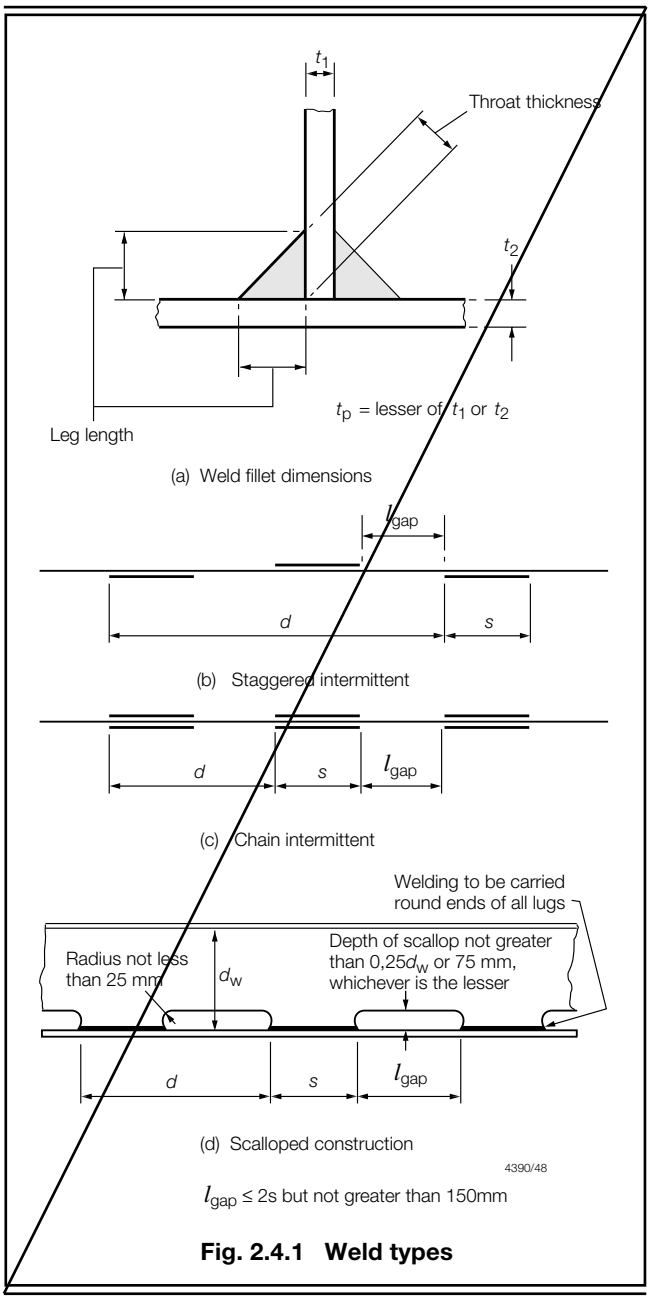

Fig. 2.4.1 Weld types

~~*4.5.2*~~ *4.5.1* The throat thickness of fillet welds is to be determined from:

$$\text{Throat thickness} = t_p \times \text{Weld factor} \times \left(\frac{d}{s}\right) \text{ mm}$$

where

- s = the length of correctly proportioned weld fillet, clear of end craters, in mm, and is to be 10 x plate thickness, t_p, or 75 mm, whichever is the lesser, but in no case to be taken less than 40 mm
- d = the distance between successive weld fillets, in mm
- t_p = plate thickness, in mm, on which weld fillet size is based, *see* ~~4.5.6~~ 4.5.4.

Weld factors are contained in Table 2.4.3.

NOTE:

for double continuous fillet welding $\left(\frac{d}{s}\right)$ is to be taken as 1

(*see* 4.8.1).

~~*4.5.3*~~ *4.5.2* For ease of welding, it is recommended that the ratio of the web height to the flange breadth be greater than or equal to 1,5 (*see* Fig. ~~2.4.2~~ 2.4.1).

Existing **Fig. 2.4.2** *has been renumbered* **Fig. 2.4.1**.

Fig. ~~2.4.2~~ 2.4.1 Web height/flange breadth ratio

~~*4.5.4* Where an approved automatic deep penetration procedure is used, the weld factors given in Table 2.4.3 may generally be reduced by 15 per cent. Consideration may be given to reductions of up to 20 per cent provided that the Shipyard is able to consistently meet the following requirements:~~

~~(a) Suitable process selection confirmed by welding procedure tests covering both minimum and maximum root gaps.~~

~~(b) Demonstrate, to the satisfaction of the Surveyor, that an established quality control system is in place.~~

~~*4.5.5*~~ *4.5.3* The leg length of the weld is to be not less than twice the specified throat thickness.

~~*4.5.6*~~ *4.5.4* The plate thickness t_p to be used in ~~4.5.2~~ 4.5.1 is generally to be that of the thinner of the two parts being joined. Where the difference in thickness is considerable, the size of fillet will be specially considered.

4.7 Single sided welding

~~*4.7.1* Where the main welding is carried out from one~~ side only a back sealing run is to be applied to all butt welds, after suitable back gouging, unless the welding process and consumables have been specially approved for one-side welding.

4.7.2 Where internal access for welding is impracticable, backing bars are to be fitted in way of butt and fillet welds, or alternative means of obtaining full penetration welds are to be agreed. Backing bars may be permanent or temporary.

4.7.3 Permanent backing bars are to be of the same material as the base metal and of thickness not less than the thickness of the plating being joined or 4 mm, whichever is the lesser. The weld is to be thoroughly fused to the backing bar.

4.7.4 Backing bars are to be continuous for the full length of the weld and joints in the backing bar are to be by full penetration welds, ground smooth.

~~*4.7.5*~~ *4.7.1* Temporary backing bars for single sided welding may be austenitic stainless steel, glass tape, ceramic, or anodised aluminium of the same material as the base metal. Backing bars are not to be made of copper to avoid weld contamination and corrosion problems.

~~*4.7.6*~~ *4.7.2* Temporary backing bars are to be suitably grooved in way of the weld to ensure full penetration.

4.8 Double continuous welding

4.8.1 Where double continuous fillet welding is proposed the throat thickness is to be in accordance with ~~4.5.2~~ 4.5.1 taking $\left(\frac{d}{s}\right)$ equal to 1.

~~**4.9 Full penetration welding**~~

~~*4.9.1* Where full penetration welding is required in accordance with 4.4 and 4.5, these are to be made by welding from both sides with the root of the first weld back gouged to sound metal before welding the second side. The weld on the second side may be a sealing run.~~

~~*4.9.2* Where access to the second side for welding is impracticable, backing bars are to be used in accordance with 4.7.~~

4.10 Intermittent welding (staggered)

~~*4.10.1* Where intermittent welding is used, the welding is to be made continuous round the ends of brackets, lugs, scallops, etc.~~

~~*4.10.2*~~ *4.10.1* Staggered intermittent welding may be used, outside of the impact area in the bottom shell or cross-deck structure of high speed craft.

~~**4.12 Slot welding**~~

~~*4.12.1* For the connection of plating to internal webs where access for welding is not practicable, the closing plating is to be attached by continuous full penetration welds, or by slot fillet welds to face plates fitted to the webs. Slots are, in general, to have a minimum length of ten times the plating thickness or 75 mm, whichever is the lesser, but in no case to be taken as less than 40 mm, and a minimum width of twice the plating thickness or 15 mm whichever is the greater, with well rounded ends. Slots cut in plating are to have smooth, clean and square edges and the distance between the slots is, in general, not to exceed 150 mm. Slots are not to be filled with welding. Alternative proposals for length, width and spacing of slot welds will be specially considered.~~

~~**4.13 Stud welding**~~

~~*4.13.1* Where permanent or temporary studs are to be attached by welding to main structural parts in areas subject to high stress, the proposed location of the studs and the welding procedures adopted are to be to the satisfaction of the Surveyors.~~

~~**4.14 Lap connections**~~

~~*4.14.1* Overlaps are generally not to be used to connect plates which may be subjected to high tensile or compressive loading and alternative arrangements are to be considered. Where, however, plate overlaps are adopted, the width of the overlap is not, in general, to exceed four times nor be less than three times the thickness of the thinner plate and the joints are to be positioned so as to allow adequate access for completion of sound welds. The faying surfaces of lap joints are to be in close contact and both edges of the overlap are to have continuous fillet welds.~~

Existing sub-Sections 4.15 *to* 4.20 *have been renumbered* 4.12 *to* 4.17.

~~4.21~~ 4.18 Lug connections

~~*4.21.1*~~ *4.18.1* The area of the weld connecting secondary stiffeners to primary structure in the bottoms of the hulls and cross-deck structure in areas subjected to impact pressures is to be not less than the shear area from the Rules. This area is to be obtained by fitting two lugs or by other equivalent arrangements. Some typical lug connections are shown in Fig. ~~2.4.3~~ 2.4.2 and Fig. 3.1.7 in Chapter 3.

Existing paragraphs 4.21.2 *and* 4.21.3 *have been re-numbered* 4.18.2 *and* 4.18.3.

Existing sub-Sections 4.22 *and* 4.23 *have been renumbered* 4.19 *and* 4.20.

~~4.24~~ 4.21 Joint preparation

~~*4.24.1*~~ *4.21.1* ~~Welded joints are to be prepared in accordance with 3.11.~~ Typical butt joints are shown in Tables 2.4.1 and 2.4.2, *see also* LR's *Guidance Notes for Structural Details*.

~~*4.24.2* All other types of joint are to be prepared, aligned and adjusted in accordance with the established joint design. Excessive force is not to be used in fairing and closing the work. The surfaces of parts to be joined are to be accurate, clean, dry and free from blemishes, grease and other contaminants which might adversely affect the joint quality.~~

Existing sub-Sections 4.25 *to* 4.32 *have been renumbered* 4.22 *to* 4.29.

Part 9, Chapter 2
Surveys During Construction, Installation and Sea Trials

Effective date 1 August 2008

■ *Section 2* Diesel engines

2.1 Construction and welding

2.1.1 ~~Where engine structures are fabricated, assembly is to be carried out to an approved welding and stress relief heat treatment procedure.~~ Welding of engine structures is to be in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

2.3 Non-destructive testing

2.3.1 ~~Non-destructive tests of components are to be carried out to an approved procedure, *see also* Pt 10, Ch 1,3.1.~~ Non-destructive examination of welded construction is to be conducted in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

■ *Section 5* Gearing

5.1 Construction and welding

5.1.2 ~~Where welding is employed in the construction of wheels and gearcases, the welding procedure is to be approved before work is commenced. For this purpose, welding procedure approval tests are to be carried out with satisfactory results. Such tests are to be representative of the joint configuration and materials. All welds are to have a satisfactory surface finish and contour. Magnetic particle or liquid penetrant examination of all important welded joints is to be carried out.~~ Where welded construction is used for the manufacture of wheels and gearcases, welding is to be in accordance with the requirements specified in Chapter 13 of the Rules for Materials

■ *Section 8* Water jet units

8.1 Construction and welding

8.1.2 Welded construction is to be in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

Existing paragraph 8.1.2 *has been renumbered* 8.1.3.

Part 10, Chapter 1
Diesel Engines

Effective date 1 August 2008

■ *Section 5* Construction and welded structures

5.3 Materials and construction

5.3.1 All welded construction is to be in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

~~*5.3.1*~~ *5.3.2* Plates, sections, forgings and castings are to be of welding quality in accordance with the requirements of the Rules for Materials, and with a carbon content generally not exceeding 0,23 per cent. Steels with higher carbon contents may be approved subject to satisfactory results from welding procedure tests.

Part 10, Chapter 2
Gas Turbines

Effective date 1 August 2008

■ *Section 5*
Construction

5.1 Welded components

5.1.1 All welded construction is to be in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

~~*5.1.1*~~ *5.1.2* Major joints are to be designed as full-strength welds and for complete fusion of the joint.

~~*5.1.2*~~ *5.1.3* Stress relief heat treatment is to be applied to all cylinders, rotors and associated components on completion of the welding of all joints and attached structures, *see* Part 15.

Part 12, Chapter 2
Water Jet Systems

CORRIGENDUM

■ *Section 7*
Electrical systems

7.1 Distribution arrangements

7.1.1 Water jet auxiliaries and controls are to be served by individual circuits. Services that are duplicated are to be separated throughout their length as widely as is practicable and without the use of common feeders, transformers, ~~converters~~ converters, protective devices or control circuits.

Part 15, Chapter 1
Piping Design Requirements

Effective date 1 August 2008

■ *Section 5*
Carbon and low alloy steels

5.2 Steel pipe joints

5.2.2 All welding of pipes is to be in accordance with the requirements specified in Chapter 13 of the Rules for Materials.

Existing paragraphs 5.2.2 *to* 5.2.5 *have been renumbered* 5.2.3 *to* 5.2.6.

Part 15, Chapter 4
Pressure Plant

Effective date 1 August 2008

■ *Section 8*
Requirements for fusion welded pressure vessels

8.1 ~~Class 1 and Class 2/1~~ General requirements

8.1.1 Welded construction of pressure vessels is to be in accordance with the requirements specified in Ch 13,1 and 4 of the Rules for Materials.

~~*8.1.1*~~ *8.1.2* Fusion welded pressure vessels constructed to Class 1 and Class 2/1 requirements will be accepted only if manufactured by firms equipped and competent to undertake high quality welding. In order that firms may be approved for this purpose, it will be necessary for the Surveyors to visit the works for the purpose of inspecting the welding plant equipment and procedures, and to arrange for the carrying out of preliminary tests as stated in ~~Pt 5, Ch 17,3 of the Rules for Ships~~ Ch 13,4 of the Rules for Materials.

Existing paragraphs 8.1.2 *to* 8.1.5 *have been deleted*.

Existing sub-Sections 8.2 *and* 8.3 *have been deleted*.

~~8.2 Class 2/2~~

~~8.3 Class 3~~

Part 16, Chapter 2
Electrical Engineering

CORRIGENDA

■ *Section 9*
Converter equipment

9.2 Semiconductor equipment

9.2.10 Protection devices fitted for ~~converter~~ converter equipment protection are to ensure that, under fault conditions, the protective action of circuit breakers, fuses or control systems is such that there is no further damage to the ~~converter~~ converter or the installation.

9.2.15 Transformers, reactors, capacitors and other circuit devices associated with ~~converter~~ converter equipment, or associated filters, are to be suitable for the distorted voltage and current waveforms to which they may be subjected and filter circuits are to be provided with facilities to ensure that their capacitors are discharged before the circuits are energized.

Part 17, Chapter 3
Fire Protection, Detection and Extinction — Yachts

CORRIGENDA

■ *Section 3*

Fire safety measures for yachts 500 gt or more

3.4 Structural fire protection – Main vertical zones and horizontal zones

Table 3.3.2 Fire integrity of bulkheads separating adjacent spaces

Spaces		*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Control stations	*(1)*	'A-0'~~(c)~~ *See* Note 3	'A-0'	'A-60'	'A-0'	'A-15'	'A-60'	'A-15'	'A-60'	~~(g)~~ *See* Note 7
Corridors	*(2)*	—	C~~(d)~~ *See* Note 4	'B-0'~~(d)~~ *See* Note 4	'A-0'~~(c)~~ *See* Note 1 'B-0'~~(d)~~	'B-0'~~(d)~~	'A-60'	'A-0'	'A-15' 'A-0'~~(f)~~ *See* Note 6	~~(g)~~ —
Accommodation spaces	*(3)*	—	—	C~~(d)~~ *See* Note 4	'A-0'~~(c)~~ 'B-0'~~(d)~~	'B-0'~~(d)~~	'A-60'	'A-0'	'A-15' 'A-0'~~(f)~~	~~(g)~~ —
Stairways	*(4)*	—	—	—	'A-0'~~(c)~~ 'B-0'~~(d)~~	'A-0'~~(c)~~ 'B-0'~~(d)~~	'A-60'	'A-0'	'A-15' 'A-0'~~(f)~~	~~(g)~~ —
Service spaces (low risk)	*(5)*	—	—	—	—	C~~(d)~~	'A-60'	'A-0'	'A-0'	~~(g)~~ —
Machinery spaces of Category 'A' and spaces containing vehicles or craft with fuel in their tanks or lockers storing such fuels	*(6)*	—	—	—	—	—	'A-60'~~(b)~~ *See* Note 2	'A-0'	'A-60'	~~(g)~~ —
Other machinery spaces	*(7)*	—	—	—	—	—	—	'A-0'~~(b)~~	'A-0'	~~(g)~~ —
Service spaces (high risk)	*(8)*	—	—	—	—	—	—	—	'A-0'~~(b)~~	~~(g)~~ —
Open decks	*(9)*	—	—	—	—	—	—	—	—	—

NOTES
1. For clarification as to which applies, *see* 3.7.
2. Where spaces are of the same numerical category and ~~superscript (b)~~ Note 2 appears, a bulkhead or deck of the ratings shown in the Table is only required when the adjacent spaces are for a different purpose, e.g. in category (8), a galley next to a galley does not require a bulkhead, but a galley next to a paint room requires an 'A-0' Class bulkhead.
3. Bulkheads separating the wheelhouse and chartroom from each other may be 'B-0' rating.
4. For the application of 3.4.1 all 'B-0' and 'C' Class bulkheads where appearing in this Table are to be taken as 'A-0' Class.
5. Fire insulation need not be fitted if the machinery space of category (7) has little or no fire risk.
6. Where the spaces are protected by the sprinkler system on both sides of the division, the division may be 'A-0' Class. Where the sprinkler system only protects a space on one side of the division the rating is to be the higher of the two values given.
7. The division is to be of steel, other equivalent material, or alternative forms of construction, but is not required to be of 'A' Class standard. However, where decks, except open decks, are penetrated for the passage of electric cables, pipes and vent ducts, such penetrations are to be made tight to prevent the passage of flame and smoke.
8. For requirements for main vertical zones, *see* 3.4.1.

Table 3.3.3 Fire integrity of decks separating adjacent spaces

		Space above								
Space below		*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Control stations	*(1)*	'A-0'	'A-0'	'A-0'	'A-0'	'A-0'	'A-60'	'A-0'	'A-0'	*See* Note 3
Corridors	*(2)*	'A-0'	~~(g)~~ *See* Note 3	~~(g)~~ *See* Note 3	'A-0'	~~(g)~~ *See* Note 3	'A-60'	'A-0'	'A-0'	~~(g)~~ *See* Note 3
Accommodation spaces	*(3)*	'A-60'	'A-0'	~~(g)~~ *See* Note 3	'A-0'	~~(g)~~ *See* Note 3	'A-60'	'A-0'	'A-0'	~~(g)~~ *See* Note 3
Stairways	*(4)*	'A-0'	'A-0'	'A-0'	~~(g)~~ *See* Note 3	'A-0'	'A-60'	'A-0'	'A-0'	~~(g)~~ *See* Note 3
Service spaces (low risk)	*(5)*	'A-15'	'A-0'	'A-0'	'A-0'	~~(g)~~ *See* Note 3	'A-60'	'A-0'	'A-0'	~~(g)~~ *See* Note 3
Machinery spaces of Category 'A' and spaces containing vehicles or craft with fuel in their tanks or lockers storing such fuels	*(6)*	'A-60'	'A-60'	'A-60'	'A-60'	'A-60'	'A-60'	'A-60'~~(c)~~ *See* Note 1	'A-60'	~~(g)~~ *See* Note 3
Other machinery spaces	*(7)*	'A-15'	'A-0'	'A-0'	'A-0'	'A-0'	'A-0'	~~(g)~~ *See* Note 3	'A-0'	~~(g)~~ *See* Note 3
Service spaces (high risk)	*(8)*	'A-60' 'A-0'~~(f)~~ *See* Note 2	'A-30' 'A-0'~~(f)~~ *See* Note 2	'A-30' 'A-0'~~(f)~~ *See* Note 2	'A-30'	'A-0'	'A-60'	'A-0'	'A-0'	~~(g)~~ *See* Note 3
Open decks	*(9)*	~~(g)~~ *See* Note 3	~~(g)~~ *See* Note 3	~~(g)~~ *See* Note 3	~~(g)~~ *See* Note 3	~~(g)~~ *See* Note 3	~~(g)~~ *See* Note 3	~~(g)~~ *See* Note 3	~~(g)~~ *See* Note 3	—

NOTE
~~*See* Notes to Table 3.3.2.~~

1. Fire insulation need not be fitted if the machinery space of category (7) has little or no fire risk.
2. Where the spaces are protected by the sprinkler system on both sides of the division, the division may be 'A-0' Class. Where the sprinkler system only protects a space on one side of the division the rating is to be the higher of the two values given.
3. The division is to be of steel, other equivalent material, or alternative forms of construction, but is not required to be of 'A' Class standard. However, where decks, except open decks, are penetrated for the passage of electric cables, pipes and vent ducts, such penetrations are to be made tight to prevent the passage of flame and smoke.

Cross-references

Section numbering in brackets reflects any Section renumbering necessitated by any of the Notices that update the current version of the Rules for Ships.

Part 7, Chapter 2

4.4.1 *Reference* 4.24 *now reads* 4.21.

4.4.1 *Reference* 4.24 *now reads* 4.21.

Part 7, Chapter 3

1.10.1 *Reference* Pt 7, Ch 2,4.29 *now reads* Pt 7, Ch 2,4.26.

1.20.1 *Reference* Pt 7, Ch 2,4.16 *now reads* Pt 7, Ch 2,4.13.

1.30.1 *Reference* Pt 7, Ch 2,3.18 *now reads* Pt 7, Ch 2,3.8.

3.13.2 *Reference* Pt 7, Ch 2,4.22 *now reads* Pt 7, Ch 2,4.19.

Part 7, Chapter 5

2.3.7 *Reference* Pt 7, Ch 2,4.26 *now reads* Pt 7, Ch 2,4.23.

Part 8, Chapter 5

2.3.7 *Reference* Pt 7, Ch 2,4.26 *now reads* Pt 7, Ch 2,4.23.

Part 17, Chapter 2

Table 2.3.1 *Reference* 3.17.10 *now reads* 3.7.3.

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